

U.S. Patent Application No.: 09/821,007
Amendment dated September 15, 2004
Reply to Office Action of July 6, 2004

PATENT

Attorney Docket No.:586-22-PA

AMENDMENTS TO THE CLAIMS:

The following listing of claims will replace all prior versions, and listing of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) An external data-input device for a portable electronic device comprising:
a speech receiving and recognizing device detachably connected with said portable electronic device for sending a controlling signal to said portable electronic device when said speech receiving and recognizing device receives a first sound speech signaling;
for receiving the sound speech signal and converting it into an analog signal;
electrically connected to the microphone, for filtering from the analog signal noises different from human sound frequencies;
electrically connected to the filter, for converting the filtered analog signal into a first digital signal;
electrically connected to the analog-to-digital converter, for storing the first digital signal and the controlling signal and building a corresponding relation between said first digital signal and said controlling signal;
electrically connected to said analog-to-digital converter and said storing device, for comparing said first digital signal stored in said storing device with a second digital signal which is converted from a second sound speech signal via said microphone, said filter and analog-to-digital converter, and sending said controlling signal to said portable electronic device according to said corresponding relation between said first digital signal and said controlling signal when the degree of the similarity between said first digital signal and said second digital signal is larger then a threshold value; and

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an input device detachably connected to said speech receiving and recognizing device and said portable electronic device for storing said controlling signal in said speech receiving and recognizing device when said input device is connected to said speech receiving and recognizing device.

2. (cancelled)

3. (currently amended) The external data-input device according to claim [[2]] 2, wherein said comparing device is a digital signal processor (DSP).

4. (original) The external data-input device according to claim 1, wherein said input device is a keyboard having a hot key for sending said controlling signal when said hot key is pressed.

5. (original) The external data-input device according to claim 1, wherein said external data-input device further comprises a connecting cable detachably connected between said speech receiving and recognizing receiving device and said input device.

6. (original) The external data-input device according to claim 1, wherein said external data-input device further comprises a connecting cable detachably connected between said speech receiving and recognizing receiving device and said electronic device.

7. (original) The external data-input device according to claim 1, wherein said electronic device is a personal digital assistant (PDA).

8. (original) The external connecting external data-input device according to claim 1, wherein said electronic device is a mobile phone.

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9. (currently amended) A speech inputting and controlling method for a portable electronic device and an external data-input device, wherein said external data-input device has a speech receiving and recognizing device detachably connected to said portable electronic device and an input device detachably connected to said speech receiving and recognizing device and said portable electronic device, said method comprising the steps of:

(a) causing said speech receiving and recognizing device to enter into a learning mode in a speech controlling state;

(b) receiving a first speech signal from a user and a controlling signal from said input device in said learning mode, and building a corresponding relation between said first speech signal and said controlling signal;

(c) causing said speech receiving and recognizing device to enter into a waiting mode; and

(d) comparing ~~[[said]]~~ a first digital signal converted from the first speech signal stored in said storing device with a second digital signal which is converted from a second speech signal, ~~via said microphone, said filter and said analog to digital converter,~~ and sending said controlling signal to said portable electronic device according to said corresponding relation between said first digital signal and said controlling signal when the degree of similarity between said first digital signal and said second digital signal is larger than a threshold value.

10. (currently amended) The method according to claim 9, wherein said second ~~sound~~ speech signal is received by said speech receiving and recognizing device.

11. (currently amended) The method according to claim 9, wherein said portable electronic device is a personal digital ~~assistance~~ assistant (PDA).

12. (currently amended) The ~~sound speech inputting~~ method according to claim 9, wherein said electronic device is a mobile phone.

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13. (currently amended) An external data-input device for a portable electronic device comprising:
a speech receiving and recognizing device detachably connected with said portable electronic device for converting a speech signal into a digital signal and sending a controlling signal to said portable electronic device;
for receiving the speech signal and converting it into an analog signal;
electrically connected to the microphone, for filtering from the analog signal noises different from human sound frequencies;
electrically connected to the filter, for converting the filtered analog signal into a first digital signal;
electrically connected to the analog-to-digital converter, for storing the first digital signal and the controlling signal and building a corresponding relation between said first digital signal and said controlling signal;
electrically connected to said analog-to-digital converter and said storing device, for comparing said first digital signal stored in said storing device with a second digital signal which is converted from a second sound speech signal via said microphone, said filter and analog-to-digital converter, and sending said controlling signal to said portable electronic device according to said corresponding relation between said first digital signal and said controlling signal when the degree of the similarity between said first digital signal and said second digital signal is larger than a threshold value; and
an input device detachably connected to said speech receiving and recognizing device and said portable electronic device for storing said controlling signal in said speech receiving and recognizing ~~receiving~~ device when said input device is connected to said speech receiving and recognizing receiving device.

14. (cancelled)

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15. (currently amended) The external data-input device according to claim [[12]] 1313, wherein said comparing device is a digital signal processor (DSP).
16. (original) The external data-input device according to claim 13, wherein said input device is a keyboard having a hot key for sending said controlling signal when said hot key is pressed.
17. (original) The external data-input device according to claim 13, wherein said external data-input device further comprises a connecting cable detachably connected between said speech receiving and recognizing receiving device and said input device.
18. (original) The external data-input device according to claim 13, wherein said external data-input device further comprises a connecting cable detachably connected between said speech receiving and recognizing receiving device and said electronic device.
19. (original) The external data-input device according to claim 13, wherein said electronic device is a personal digital assistant (PDA).
20. (original) The external data-input device according to claim 13, wherein said portable electronic device is a mobile phone.